

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-15. (Canceled)

16. (Currently Amended) An immersion sensor for measuring the concentration of at least one analyte with the aid of an oxidase, wherein said immersion sensor comprises said oxidase in an enzyme region coupled on at least one side to an analyte-impermeable, oxygen-permeable membrane having no analyte window or no unselective pores or perforations ~~channel~~, said enzyme region connected to the surface of the sensor via at least one channel which contains water and is permeable to the analyte, said at least one channel comprising a near-surface part adjacent to the surface of the sensor, and wherein said enzyme region is adjacent to a pair of electrodes.

17. (Original) The immersion sensor as set forth in claim 16, wherein the enzyme region contains water.

18. (Previously Presented) The immersion sensor as set forth in claim 16, wherein the at least one channel leads through an impermeable material of the immersion sensor.

19. (Previously Presented) The immersion sensor as set forth in claim 17, wherein said at least one channel is filled, adjacent to the surface of the sensor, with a porous substance which is impermeable to proteins.

20. (Previously Presented) The immersion sensor as set forth in claim 17, wherein on the surface of the sensor, the channel passes into a protein-impermeable, hydrophilic layer.

21- 23. (Canceled)

24. (Previously Presented) The sensor according to claim 16, wherein the sensor is configured such that the analyte diffuses into the enzyme region.
25. (Previously Presented) The sensor according to claim 16, wherein the enzyme region is an enzyme layer.
26. (Canceled)
27. (Previously Presented) The sensor according to claim 16, wherein a length of the channel exceeds a thickness of the membrane.
28. (Previously Presented) The sensor according to claim 16, wherein the enzyme region borders an inner gas space of the sensor from within.
29. (Previously Presented) The sensor according to claim 28, wherein the inner gas space is connected to an oxygen reservoir.
30. (Previously Presented) The sensor according to claim 28, wherein the analyte-impermeable, oxygen-permeable membrane having no analyte window is situated between the enzyme layer and the inner gas space.
31. (Canceled)
32. (Previously Presented) The sensor according to claim 16, wherein the channel forms the only way of transporting analyte to the enzyme.
33. (Currently Amended) The sensor according to claim 16, wherein a diffusion resistance of the analyte in said channel is determined by a ratio of a length of the channel and a cross-sectional area of the channel.

34. (Previously Presented) The sensor according to claim 16, wherein a length of the channel is between 0.1 mm and 1 mm.

35. (Currently Amended) The sensor according to claim 16, wherein said surface of said sensor comprises a porous layer, said porous layer providing an increased surface area for diffusion of the analyte into the channel, whereby ~~outer the~~ the concentration gradient~~[[s]] level out~~ of the analyte outside the surface of the sensor levels off thereby reducing the effect of outer material deposits on the surface of the sensor thereby reducing the effect on diffusion flow of the analyte.

36. (Previously Presented) The sensor according to claim 16, wherein the channel passes into a hydrophilic, porous and protein-excluding layer.

37. (Previously Presented) The sensor according to claim 16, wherein the channel leads through a water-impermeable material and at a surface of the sensor is filled with a hydrophilic porous substance.

38. (Previously Presented) The sensor according to claim 16, wherein the membrane comprises a substantially continuous membrane.

39. (Currently Amended) An immersion sensor for measuring the concentration of at least one analyte with the aid of an oxidase, wherein said immersion sensor comprises said oxidase in an enzyme region coupled on at least one side to a substantially continuous analyte-impermeable, oxygen-permeable membrane, said enzyme region connected to the surface of the sensor via at least one channel which contains water and is permeable to the analyte, said at least one channel comprising a near-surface part adjacent to the surface of the sensor, and wherein said enzyme region is adjacent to a pair of electrodes.

40. (Currently Amended) The sensor according to claim 39, wherein said membrane comprises a membrane having no analyte window or no unselective pores or perforations ~~channel.~~